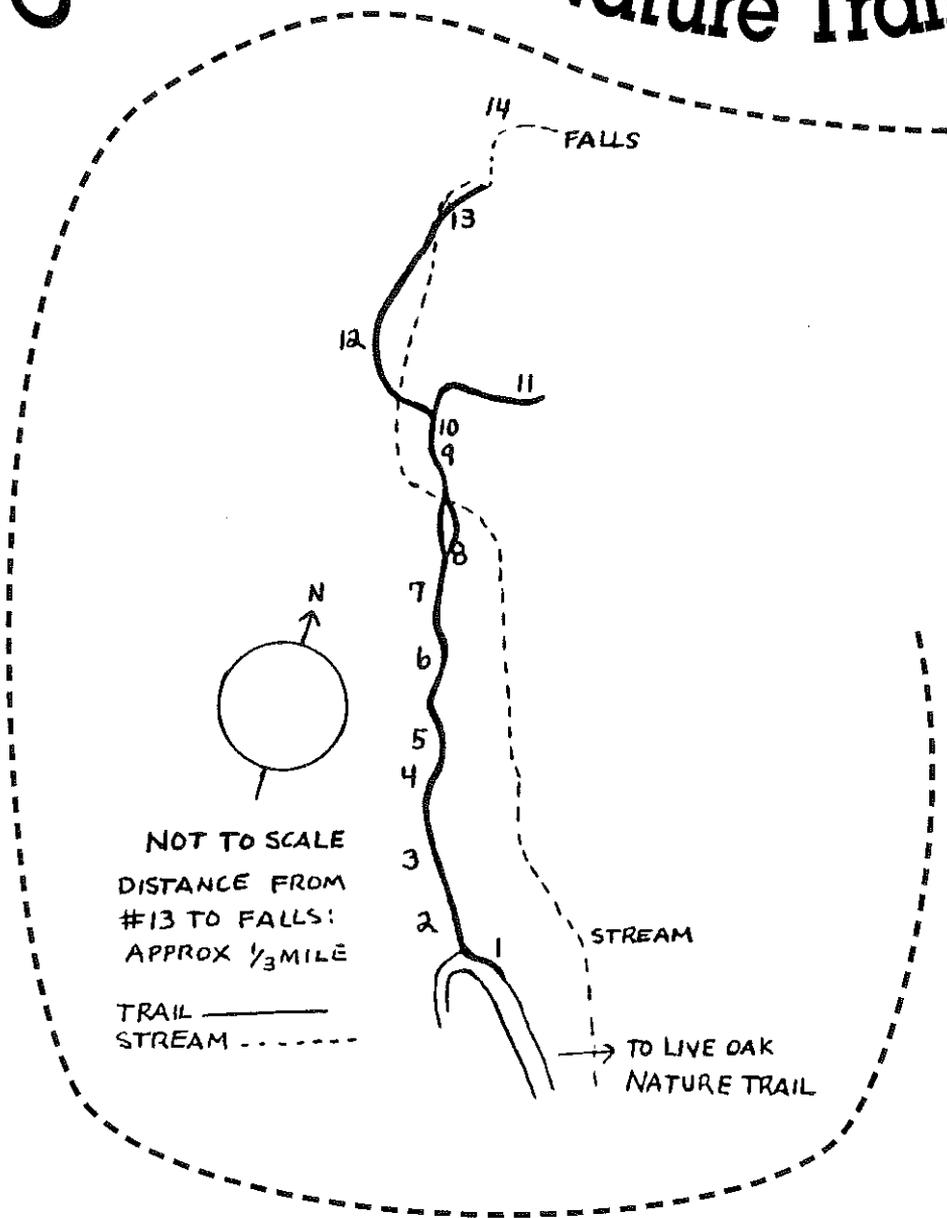


# Canyon View Nature Trail



NOT TO SCALE  
DISTANCE FROM  
#13 TO FALLS:  
APPROX  $\frac{1}{3}$  MILE

TRAIL ———  
STREAM - - - -

Bailey Canyon Wilderness Park  
Sierra Madre, California

# Canyon View Nature Trail

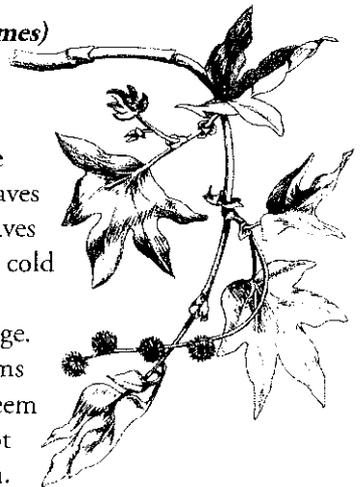
As you look up into Bailey Canyon, it should become apparent to you that plants are distributed in definite patterns. On the steep, dry slopes, two different drought-resistant plant communities exist. Because of the elevation here (slightly over 1000 ft.) these two communities overlap and intermingle. The larger shrubs belong to the Chaparral Association; the smaller, less woody species to the Coastal Sage Scrub. We are at the lower limits of the warm Chaparral Association.

In an undisturbed **Riparian Plant Community**, the stream channel should be moist and shaded during most of the year. The plants are different from those on the steep, dry slopes, because of the moisture. The large-leafed water-pumping phreatophytes (plants whose roots must be touching ground water) try to find here the large quantities of water that they require for use as a cooling system during the hot summer months.

The Canyon View Nature Trail is a half-mile (round trip), uneven trail requiring multiple streambed crossings on a narrow trail. It begins a short distance north of the bridge to the Live Oak Nature Trail. The first marker is on the right, underneath the large sycamore tree. Numbered posts along the trail refer to the following paragraphs. At the end of the trail, you will be rewarded with a view of the canyon waterfall.

## 1). WESTERN SYCAMORE (*Plantanus racemes*)

This tree has thin bark that is constantly flaking off, a process called exfoliation. The Sycamore is a water pumper and needs large quantities of water to keep its broad, soft leaves cool throughout the summer. It sheds its leaves in the fall and becomes dormant during the cold winter months because it cannot otherwise withstand the extremes of temperature change. Sycamores grow in canyons and river-bottoms to elevations of 4,500 to 5,000 feet. They seem to be restricted to this type of habitat, except when they are planted and cared for by man.

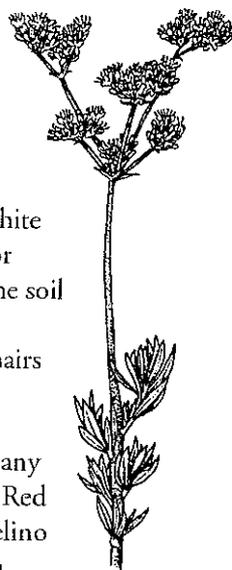


Look up into the canyon and observe that the San Gabriel Mountains contain many deep canyons and steep, sharp ridges. This is typical topography of a youthful mountain range. Although these mountains are young in geologic time, they are made of ancient granite rock. The granites of this range are among the oldest found on the North American continent, some kinds as much as two billion years old! The San Gabriel Mountains are called a fault block range because they were built by the action of earthquakes. It has taken hundreds of thousands of years for the mountains to reach their present height; the last significant uplifting (200-300 feet) occurring about 3,500 years ago. As you hike into the mountains, you will notice that they are not solid rock, but rather a pulverized crumbling structure, the effect of earthquake activity over millions of years. Even as the mountains are being uplifted, water and other natural forces are working to tear them down. The deep canyons and steep, sharp ridges are the result of water sculpting the face of the land. In the far distant future, the San Gabriel Mountains will be reduced to rolling hills.

## 2). CALIFORNIA BUCKWHEAT (*Erigonum fasciculatum*)

To the right of the trail marker is a small, half woody shrub known as the California Buckwheat or Flattopped Buckwheat. Look closely at a fleshy, water-storing leaves of this plant. The leaves' green color is caused by chlorophyll, which is used with carbon dioxide (CO<sub>2</sub>) and sunlight in a food manufacturing process called photosynthesis. Little white hairs produce the silver-colored effect. The white color deflects solar radiation; light from the sun stored in the soil as heat. As the soil reaches a certain temperature, the sunlight is re-radiated to the atmosphere. The white hairs protect the plant from this source of heat.

Buckwheat is a good seed food source for wildlife. Many species of birds, mammals and insects (including the Red Harvester Ant) utilize this valuable plant. The Gabrielino Indians used to harvest buckwheat seeds by holding a butterfly wing shaped basket under the plant while striking the seed pods with a stick.



### 3). TOYON (*Heteromeles arbutifolia*)

The Toyon, sometimes called Christmas Berry, is the large shrub with the dull green, long, linear leaves. Notice the serrated (toothed) edges of the leaves. The Toyon becomes conspicuous during the mid-winter months when its fruit begins to ripen and the whole shrub is covered with bunches of bright red berries. Toyon berries feed many of the wild animals in the park. Such mammals as the Dusky-footed Wood Rat and California Ground Squirrel will climb the shrub to harvest the berries before they begin to dry up. Hollywood (land) was named after this plant.

Across the trail and closer to the stream is a sycamore whose hollowed trunk shows fire scarring. Through the years, this tree trunk has been a hiding place for bee hives, and the trunk and branches held and will hold “woodpecker apartments”. The female woodpecker lays 4 or 5 white eggs in the spring. Woodpeckers are well equipped for their job of wood drilling; their heads are protected from the constant jarring by a doubly reinforced skull construction. Their feet too are adapted to perching on the vertical trunks and branches. They are called zygodactyls, a term that means there are two toes in front and two in the rear, allowing for a firm balance and grasp. They have remarkably long tongues and stiff spring tails which serve as props when climbing. Their food is tree-boring insects, ants and flying insects, and acorns.

A woodpecker whose habitat is the Oak Woodland area is the Acorn Woodpecker (*Melanerpes formicivorus*). It has a clownish black, white and red head pattern and stores acorns in the bark of trees. Its second name, “formicivorus”, literally means “anteater”. Another member of the woodpecker family which is frequently seen in Bailey Canyon, is the Northern Flicker (*Colaptes cafer*). It is larger than the Acorn Woodpecker. When in its characteristic deeply undulating flight, a conspicuously white rump can be seen and it flashes much salmon-red under the wing. Its back is brown. The call, a loud “wick wick wick wick”, is one of the more prominent bird calls in Bailey Canyon.

### 4). HOREHOUND (*Marrubium vulgare*)

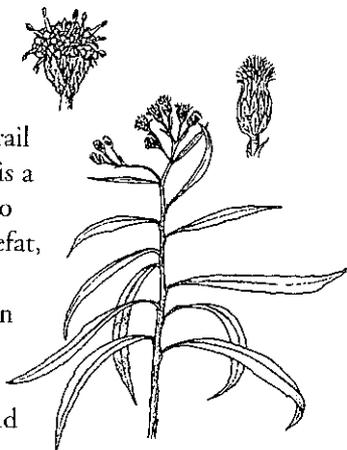
Look at the slopes above. This is an illustration of the complexities of this area. Plants of both the Coastal Sage Scrub and Chaparral Associations are growing side by side.

The sumacs are the products of re-sprouting, which occurred from the basal root burl after fire had destroyed the original foliage, thereby providing a stimulant which induced vigorous regrowth. Fire is a natural environmental factor in the chaparral community, and the plants have adapted characteristics which have enabled them to survive the inevitable periodic occurrences of wildfires. Mule deer like to browse on the tender, succulent, nutritious, green re-sprouts found in post-fire areas.

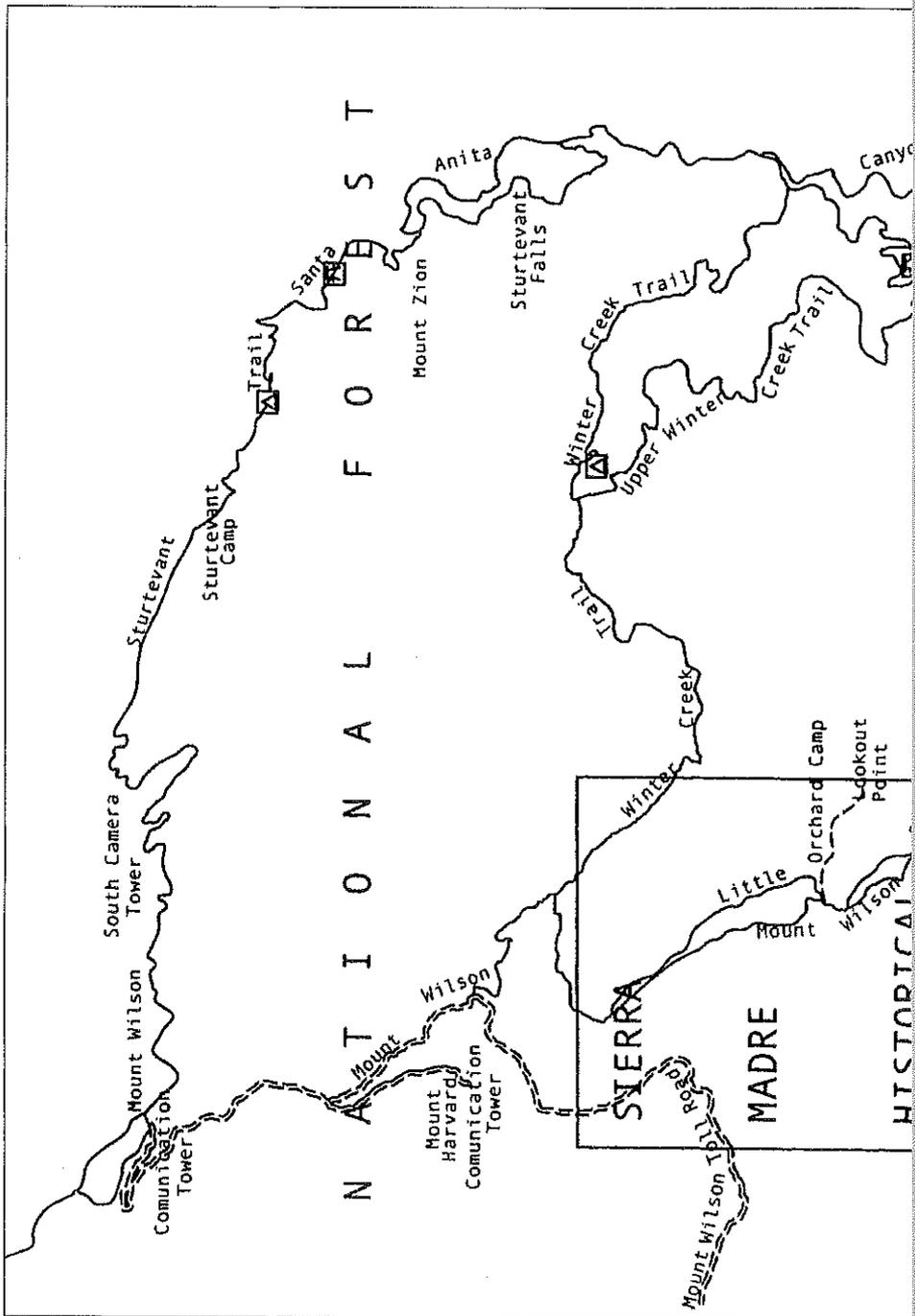
Behind the marker is Horehound, a perennial, wooly herb and member of the mint family. The wrinkled, toothed leaves have fine white hairs on the top, and white woody ones on the underside. Note the square stems typical of mints. Horehound has been used since ancient times as a tea, or to make a candy prized for its soothing effect on sore throats and coughs. A tea was used by the Cahuilla Indians for flushing the kidneys. The dried seeds of late summer or fall are distributed "pick-a-back" on clothing or animal fur. This stick-tight method is only one of many that nature uses for its widespread distribution of seeds. Horehound was an important item in the "medicine cabinets" of pioneer families.

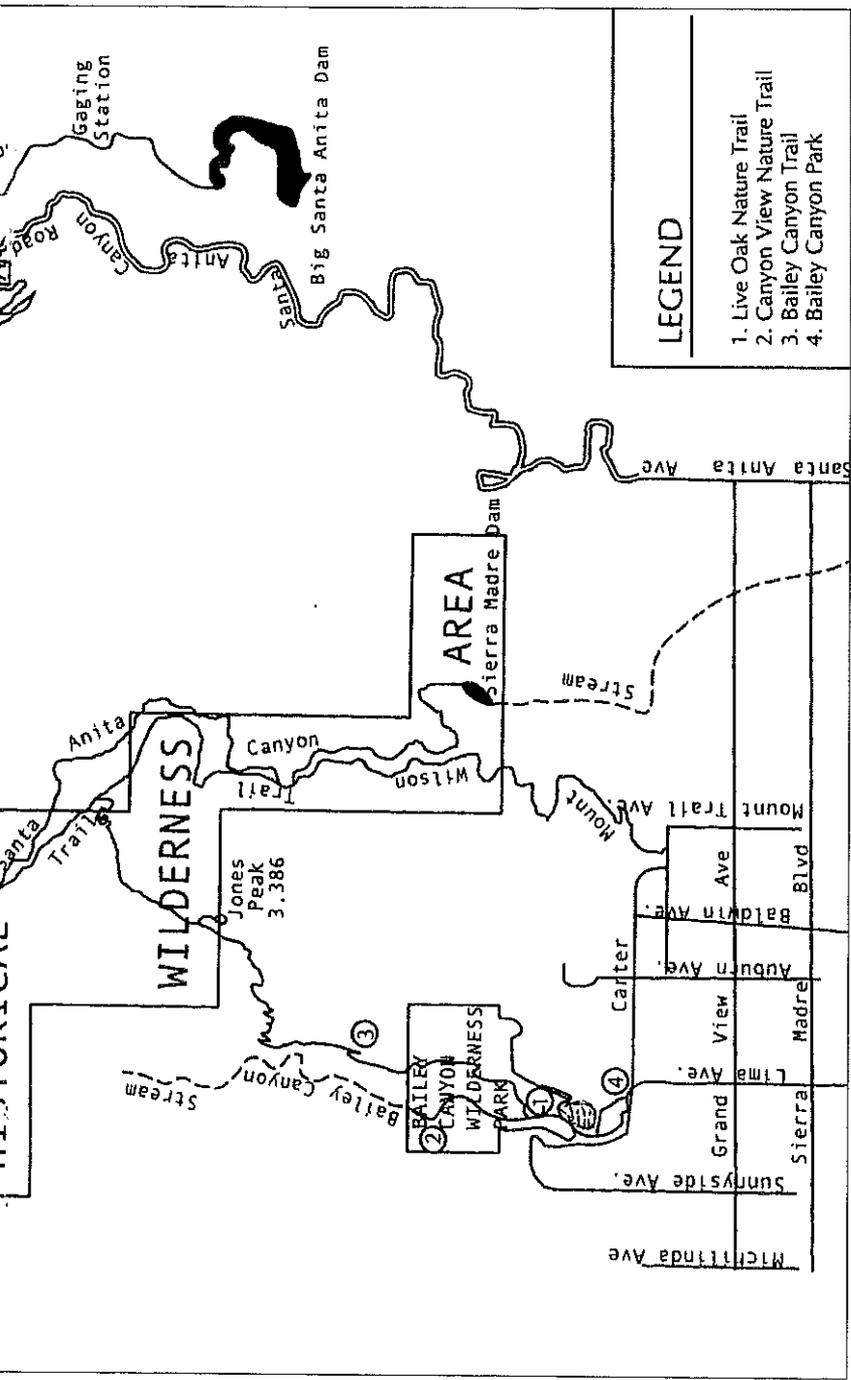
5). **MULE FAT (*Baccharis viminea*) and SUGAR BUSH (*Rhus ovata*)**

The plant you see growing to the left of the trail marker no doubt reminds you of a willow. It is a member of the Composite or sun-flower (also daisy and dandelion) family. It is called Mulefat, a name derived from one of its earlier uses: feeding stock animals. Mule Fat is restricted in habitat to the moist, well drained soil of riverbeds with adequate moisture and drainage. The seeds of this shrub are white and fuzzy. Each one is equipped with a small parachute which rides the wind and carries the seed many miles. See if you can recognize more of this plant by the side of the stream.



Directly across the trail is Sugar Bush, a harmless close relative of Poison Oak. The leaves are folded along the midline like the bow of a boat. The waxen coated Sugar Bush berries, soaked in water, were used by the Native Americans as a sweetish, flavorful drink.





6). **HOLLYLEAF CHERRY** (*Prunus ilicifolia*),  
**CALIFORNIA SCRUB OAK** (*Quercus dumosa*), and  
**WILD CUCUMBER** (*Marah macrocarpus*)

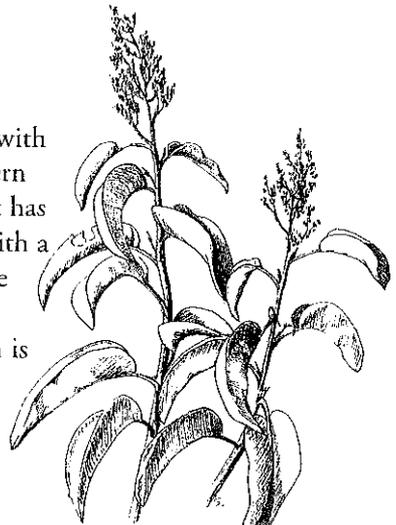
On the slope behind the marker is a Hollyleaf cherry, another chaparral shrub. Observation of the leaf of the Hollyleaf Cherry reveals the reason for part of the plant's name. If you observe the ripened fruit which looks like a large red cherry, you would have to agree that this shrub has an unusually logical name. Each fruit is covered by a hard shell and a thin outer layer of sweet pulp. The Native Americans used to crack open the hard seed coats in order to remove the almond-like seed which was ground up and eaten as a soup.

Just to the left of the Hollyleaf Cherry is a California Scrub Oak. Its leaves are similar in color to those of the Hollyleaf Cherry, and ringed with short irregular spines all around. This small tree is common in the chaparral throughout Southern California. Its acorns mature in a single year.

As you have moved up the trail, you may have noticed numerous examples of a vine, which in some places almost totally envelopes a plant. However, this is not a parasite. It is Wild Cucumber (*Marah macrocarpus*), and here, to the right of the marker, it is entangled in a Laurel Sumac. Wild Cucumber is also called Manroot because in older plants, the root-tuber can weigh as much as 100 pounds. The fruit of this plant is a green, prickly gourd about 3 inches across. When ripe, it bursts open and scatters soapy pulp and large brown and white seeds over several yards. The flowers are tiny and star-shaped. The roots are poisonous. The Native Americans crushed the roots to scatter in streams and ponds to stun fish.

7). **LAUREL SUMAC** (*Rhus laurina*)

This drought-resistant shrub provides us with an indication of the type of climatic pattern that dominates the Bailey Canyon area. It has tough, leathery leaves which are coated with a waxy substance. This type of leaf structure restricts water loss through transpiration (cooling by evaporation). The root system is deep and extensive, sometimes going down fifty or sixty feet in search of soil-trapped water.



The Laurel Sumac is well equipped to withstand the long, hot, dry summer associated with the Mediterranean type of climate. New growth can be observed on the Sumac almost every month of the year, which indicates the Mediterranean type of climate and a mild, rainy winter.

**8). STREAMBED CHANNEL, WILSON DIORITE,  
WHITE SAGE (*Salvia apiana*)**

Look down into the stream channel. The large black and white “salt and pepper” rock is called Wilson diorite. It is composed of quartz and plagioclase feldspar (the light minerals). Biotite mica and hornblende are the dark minerals. This is one of the most common granitic rocks in this portion of the San Gabriel Mountains. Across the stream bed is a bedrock outcropping. Notice how the rock is shattered. This is the product of earthquake movements along large cracks in the Earth’s crust called “faults.”

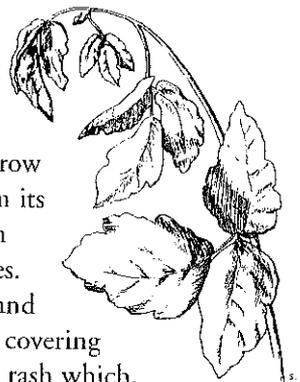
Plants that have established a root system on this almost vertical slope assist in stabilizing an area that is subject to almost continual crumbling away because of the nature of the decomposing granites. It is usually possible to see White Sage on these steep canyon sides. The whitish-grey leaves are one to four inches in length. The plant was widely used by the Native Americans both as a food and as a medicinal. Sage teas were used to improve digestion and to relieve sore throats and colds. Leaves were used to stop bleeding and to soothe insect bites.

As you continue along the trail, watch for the Scrub Jay with its blue head, rump and tail. Perhaps you will be fortunate enough to hear its distinctive call.

**9). POISON OAK (*Toxicodendron diversilobum*)**

The shrub straight above the trail marker is one with which you should be thoroughly familiar. Take a careful look at its leaf structure. There are three leaflets to each stem. Poison Oak can grow in the form of a shrub or as a vine, depending on its location and growing conditions. It is most often found in shaded areas, often under large oak trees.

Actually, it is a sumac and related to Sugarbush and Laurel Sumac. Poison Oak has an oily substance covering its leaves and stems. It can cause a very irritating rash which,



if left untreated, can become serious. Watch out for Poison Oak during the hottest part of the summer and the coldest period of winter. During these times, it loses its leaves and appears as a clump of dead brush, but the irritating oil is still present.

Poison Oak provides wildlife with both food and protective cover so it should not be eliminated from its natural habitat.

#### 10). GIANT RYE GRASS (*Elymus condensatus*)

The tall wide-leaved grass behind the trail marker is Giant Rye Grass. It is believed that rye grass dies back during the hot, dry summer, but produces new leafage during the remainder of the year. It is one of the few native grasses which have been able to withstand the encroachment of civilization with its associated grazing stock animals. The young sycamores appearing near the rye grass are another indication of subsurface moisture.

#### 11). LOOKOUT VIEWPOINT

From this vantage point, one can look out from the mouth of Bailey Canyon to the floor of the San Gabriel Valley (Basin). Most of the buildings you see are resting on coarse water-transported rock and sand (Alluvium) which has been eroded from the mountains and transported to the Basin below by rain water. One can see soil genesis at work by tracing a large rock from the higher reaches of Bailey Canyon to the center of the San Gabriel Basin. As the rock tumbles down the stream bed, it is eventually broken down into sand. The sand becomes very fine in texture as it is washed to the center of the basin floor. The many check dams along the San Gabriel slopes have interrupted this natural action.

The Bailey Canyon Trail to Jones Peak starts at #11 marker. The cabin ruins are 2.5 miles up on a switchback trail. Total distance to Jones Peak is 3.3 miles.

NOTE: (see cover map) Doubling back to the junction of the trail, the hiker may continue on up to the falls, a little more than 1/3 mile. The stream bed is the trail for part of the way.

## 12). COAST LIVE OAK (*Quercus agrifolia*), MUGWORT (*Artemisia ludoviciana*)

In past years, there have been many changes to the Coast Live Oak seen above the marker. This species is found growing in the foothill canyons and riverbeds of Coastal Southern California. This particular tree, which now has a very bushy appearance, was once a tall tree which withstood many fires and floods. Eventually the large tree fell but, as you can see, a wonderful new growth has developed from the roots. This is known as Vegetative Re-sprouting. Re-sprouting such as this is characteristic of trees and shrubs that have been exposed to catastrophic effects of wildfires for thousands of years. These plants have become “fire adapted”. That is, although the fire destroys the existing foliage, it at the same time produces a stimulating effect which causes new growth (sucker sprouts) to be produced by the plant. A fire-charred portion of the old tree now lies in the trail and eventually will disappear as bacteria, insects, fungi and other elements of decomposition will turn it into earth. Is there evidence of insect intrusion that may have occurred before the tree fell?

To the left of the marker is Mugwort, which is a sagebrush. Native Americans made a decoction of the leaves for colds, colic, bronchitis, rheumatism and fever. The juice was used to counteract the effects of poison oak. Mugwort leaves have the same adaptation found on the Buckwheat leaves—green tops with silver hairs underneath. Can you remember why the leaves are structured like this?

## 13). BIGLEAF MAPLE (*Acer macrophyllum*)

Now that you are well into the moist shady portions of the canyon, you have entered the realm of the Bigleaf Maple. It is a tall broad-leaved tree which may attain heights of 30 to 100 feet, with a trunk diameter of from 12 to 20 inches. This maple is found in many plant communities throughout the Pacific Coast region. In the drought-stricken areas of Southern California, it seems to prefer Riparian Woodlands where it grows beside bay trees, sycamores and oaks. It thrives in the deep, moist, well-drained alluvial soils of river bottoms. The “mother tree” above this marker has died, and its remains have washed down the canyon. But, as you can see, it produced many new young trees before it disappeared.

The water pipe near the marker, seemingly coming from nowhere, is from one of the early water tunnels dug to pipe water used for irrigation and for home consumption in the early days of Sierra Madre. The tunnel here was filled in for safety.

#### 14). An EARTHQUAKE FAULT, CALIFORNIA LAUREL (*Umbellularia californica*)

There are two major earthquake faults running parallel to one another near Bailey Canyon. The first and the closest is the Sierra Madre Fault which runs in an east- east-west direction at the base of the San Gabriels. The second major fault, the San Gabriel, was responsible for the formation of the east and west forks of San Gabriel Canyon. Besides major faults, there are thousands of subsidiary faults. The fault you see here is a small branch of a larger fault. The fault zone is one of shattered and displaced rocks. Can you find it? Try to imagine the intense forces that must build up in a rock mass before it slips along a fault to release pressure.

Just to the right up the trail, is a steep bedrock cliff. This is a beautiful waterfall when water is running down the stream channel. To the right of the waterfall is a California Laurel or Bay tree. This tree is famous for its strong, pungent odor. The leaves are used for seasoning in stews, roast, etc. The leaves and seeds have properties as an insecticide, and small limbs are used today as louse preventative on chicken roost.

### TRAIL HISTORY

The Bailey Canyon Nature Trails, begun in 1966 and completed in the Spring of 1967, were developed by volunteer youth groups, and conservation and trail work continues to be done by volunteers. The park was dedicated as a Wilderness Park on June 11, 1967. Bailey Canyon is named for R.J. Bailey who received a patent from the U.S. Government in 1875 for a portion of the canyon area and lived there until he sold his ranch in 1881 to Palmer T. Reed.

**Trail Guide Courtesy Of The  
Sierra Madre Environmental Action Council  
SMEAC  
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Sierra Madre, CA 91025**

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